REMARKS

Examiner will note that some minor clarifying amendments have been made to the claims. It is submitted that these amendments enhance the readability of the claims as a whole, without altering the claims' scope.

A number of additional dependent claims directed to more specific aspects of the invention have also been added. It is submitted that no additional searching or effort is required on Examiner's behalf, given that all new claims are dependent upon existing claims which, it is argued below, are themselves patentable.

Turning to the Examiner's rejection of various claims, Applicant disagrees with the Examiner's suggestion that it would be obvious to combine Reber et al with Liddiard et al to anticipate the present invention. Applicant also submits that, even if there was some motivation to make such a combination, the resultant combination of features would still fail to anticipate the present invention as claimed.

To begin with, the presently claimed invention, as clearly set out in the introductory portion of the specification, is a device for interacting with computer systems. This is further emphasised throughout the specification, where the device is consistently described as an integrated device that interacts with coded data on a substrate, and is operable to display information on a display and to print information back onto that substrate (or another substrate). These features are also defined in claim 1, which is the only independent claim in the present application.

In contrast, Reber et al show a computer system that is capable of interacting with a network. Whilst the communication could be with another computer system, Applicant submits this is not in the same field of art as the present invention as defined. Liddiard et al is in the field of infrared intrusion sensing, for long-range passive security detectors (see abstract, and entire specification). This is completely unrelated to the stated field of the present invention. Moreover, Liddiard et al and Reber et al are also from mutually exclusive fields of art. Not only would one not look to either of those fields to solve the problem overcome by the present invention, given either citation one would certainly not be motivated to look to the field of the other citation for features. It is therefore submitted that

the citations are individually from the different fields from the present invention, as well as from each other, and that one skilled in the art would not be motivated to look in these fields to seek a solution to the problem solved by the present invention as claimed.

Notwithstanding this fact, even if one attempts to combine Liddiard et al with Reber et al, the result completely fails to anticipate the present invention as claimed.

Claim 1 of the present case defines *inter alia,* the following features:

(a)   "sensor for sensing coded data on or in a *substrate*"

(b)   "at least one display device..."; and

(c)   "a printer mechanism *for printing on the substrate*".

The Examiner suggests that there is disclosure of a display device in the form of a computer monitor. Applicant agrees. However, Examiner also suggests that the screen 94 of Reber et al also corresponds with a "printer mechanism". There appears to be a typographical error in Office Action at this point, since Examiner appears to refer to a "printer mechanism on the substrate", whereas claim 1 defines a printer mechanism "for printing on the substrate". We understand Examiner to be suggesting that the arrangement in Reber et al "prints" data to the computer monitor. However, this is entirely different to being capable of printing *to* a substrate *from* which the coded data is read. For this reason, we submit that Reber et al entirely fail to disclose the features of claim 1 referred to by Examiner. Moreover, the deficiencies are not rectified with reference to Liddiard et al.

We mention at this point that the word "printing" has a clear meaning to one skilled in the art, even without looking to the present specification. "Printing", in this context, does not mean "displaying on a computer display"; rather, it means the process of making a relatively permanent hard-copy onto a substrate using an ink or dye. It is respectfully submitted that one skilled in the relevant art would interpret the phrase "printer mechanism for printing on [a] substrate" as meaning precisely this type of printing. It would certainly not be interpreted as meaning displaying via a computer display, as suggested by Examiner. This is further supported by the fact that a "display device" is separately defined in the same claim. It is submitted that the disclosure of Reber et al is not relevant on this basis, also.

Turning to claim 2, Examiner contends that the visual output (on the display device of the viewing device) corresponds with to "a human discernable interface on the substrate".

It is not, however, clear how Examiner has arrived at this conclusion. Reber et al disclose an arrangement in which a user can use a scanning pen to read a URL in encoded form to look up a web page on the internet. There is no disclosure of the visual output (which is displayed on the display device) corresponding to a human discernable interface *on a substrate*. There is, in fact, no disclosure of an "interface" on the substrate of Reber et al for the user to interact with, let alone an arrangement in which there is correspondence between the *displayed* image and a human discernable *interface* on the substrate. Again, this deficiency is not rectified by Liddiard et al. Accordingly, it is respectfully submitted that claim 2 is patentable, both of its own accord and based on its dependence on claim 1.

Regarding claim 3, as discussed above, there is no disclosure of a printer mechanism in Reber et al for printing on the substrate, so there can therefore be no "user interface and control means operable to cause the printer mechanism to print markings on the substrate based at least partially on user input and/or the display data. Liddiard does not remedy this deficiency. Accordingly, it is submitted that claim 3 is patentable both of its own accord and based on its dependence on claim 1.

Turning to claim 4, Examiner suggests that a user interface in the form of a touch sensitive overlay can be added to the combination of Reber et al and Liddiard et al to anticipate the invention. With respect, this is incorrect. Claim 4 defines that the touch sensitive overlay is part of the interface (of claim 3). There is no suggestion in any of the documents cited as to why one might wish to add this feature to the combination of Reber et al and Liddiard et al, let alone any way in which such a combination would result in the invention as claimed. Claim 4 is dependent upon claim 3, which defines that the user interface and control means are operable to print markings on the substrate. This combination of features is not anticipated by combining Wolff et al with the other citations, because there is no disclosure in any of them of a device operable read coded data from a surface and then display and print information.

Claim 5 adds the limitation that printing takes place as a user interacts with the touch-sensitive overlay. Again, this is not disclosed in any of the citations. There is certainly no disclosure of using a touch sensitive overlay that causes a print device to print *as a user interacts with that overlay*. For this reason, it is submitted that claim 5 is patentable over the cited art.

Claim 6 has been amended to depend from claim 4, and adds the limitation that printing takes place once the user has completed interacting with the touch-sensitive overlay. Again, the citations do not disclose the use of a touch-sensitive overlay in this context.

Claim 7 has been amended to clarify that the user input via the touch-sensitive interface is sent to the computer system, which in turn sends back data for printing via the printer mechanism. Examiner suggests that this feature is disclosed by the combination of Reber, Liddiard and Wolff. Applicant disagrees that it would be obvious to combine the disclosure of these citations in order to anticipate the invention as defined in claim 7. In particular, Reber already discloses a device that can be used to interact with paper-based coded data to control computer software. There is, therefore, no rationale for adding the feature of a touch-sensitive screen that can accept user input. Moreover, given that the Reber device does not incorporate a printer, modifying it by way of incorporating features from Liddiard and Wolff cannot result in anticipation of the present invention.

Regarding claim 8, none of the citations suggest an arrangement in which visual information on a display device represents a portion of an electronic document, wherein the device incorporates a printer mechanism. Reber discloses, for example, retrieval of a document on a computer screen via a hyperlink on a page using a sensor. However, the sensor is not a display device capable of displaying visual information to a user. This being the case, Reber cannot represent a portion of an electronic document to a user via such a display device. Liddiard and Wolff do not overcome this deficiency.

Claim 9 limits claim 8 to the feature of the visual information replicating at least some of the human discernable interface. This feature is described in none of the citations. Similar comments apply in relation to claim 10.

Claim 11 adds the feature that the sensor device is operative to sense the coded data when it is positioned at least partly overlapping the substrate. There is no disclosure of a viewer configured in this way in Reber. The sensor in Reber is not a "viewing device", so even if the tip could be considered to in some way "overlap" the substrate when the device is in use, it cannot be said that there is any overlapping of the substrate by a "viewing device" as claimed. Accordingly, it is submitted that claim 11 is patentable over the citations.

Turning to claim 12, there is certainly no disclosure in any of the citations of an arrangement in which the display device, when a viewing device is in use, is positioned in an overlapping relationship with the sensor device, such that the sensor device is positioned between the coded data and the display device. Moreover there is nothing disclosed or suggested in any of the citations to suggest that such a combination would be obvious to one skilled in the art. Accordingly, it is submitted that claim 12 is patentable over the citations.
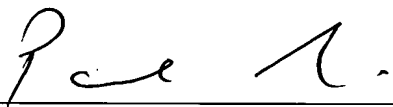
Claim 13 adds the feature that the printer mechanism is configured to print printed data corresponding at least partly with the visual information or display data. There is no disclosure of any such arrangement in any of the prior art, and so it is submitted that claim 13 is patentable.
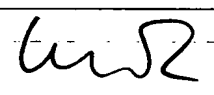
CONCLUSION

In view of the comments above, it is respectfully submitted that the present invention, as claimed in each and every claim, is patentable over the cited art. Favourable reconsideration of the application is therefore respectfully requested.

Very respectfully,

Applicants/Inventors:

_____
PAUL LAPSTUN

_____
KIA SILVERBROOK

_____
TOBIN ALLEN KING

C/o: Silverbrook Research Pty Ltd
         393 Darling Street
         Balmain NSW 2041, Australia
Email: Kia.silverbrook@silverbrook.com
Telephone: +612 9818 6633
Facsimile: +61 2 9818 6711

VERSION WITH MARKINGS TO SHOW CHANGES MADE

<u>In the Specification:</u>
The section beginning at page 1, lines 10-17 to be amended as follows:

~~NPA060US,   NPA061US,   NPA081US,   NPA082US,   NPP010US,   NPP013US,~~

~~NPP015US,   NPP020US,   NPP021US,   NPP022US,   NPP023US,   NPS014US,~~

~~NPS015US,   NPS017US,   NPS018US,   NPS022US,   NPS027US   NPS028US,~~

~~NPT008US,   BIN01US,   BIN02US,   BIN03US,   BIN04US~~

~~The disclosures of these co-pending applications are incorporated herein by cross-reference.~~

~~Each application is temporarily identified by its docket number. This will be replaced by the~~

~~corresponding USSN when available.~~

--09/721,895, 09/721,894,   09/722,174,   09/721,896,   09/722,148,   09/722,146,
09/721,861,   09/721,892,   09/722,171,   09/721,858,   09/722,142,   09/722,087,
09/722,141,   09/722,175,   09/722,147,   09/722,172,   09/721,893,   09/722,088,
09/721,862,   09/721,856, 09/721,857,   09/721,859,   09/721,860

The disclosures of these co-pending applications are incorporated herein by cross-reference.--

The section beginning at page 1, lines 21-27 to be amended as follows

~~NPA011US,   NPA031US,   NPA040US,   NPA046US,   NPA053US,   NPA059US,~~
~~NPA064US,   NPB006US,   NPS004US,   NPS008US,   NPS013US,   NPS024US,~~
~~NPPC1,   UP01US,   UP02US,   UP03US,   UP04US,   UP05US~~
~~The disclosures of these co-pending applications are incorporated herein by cross-reference.~~

~~Each application is temporarily identified by its docket number. This will be replaced by the~~

~~corresponding USSN when available.~~

--09/693,415, 09/693,219,   09/693,280,   09/693,515,   09/693,705,   09/693,647,
09/693,690,   09/693,593,   09/693,216,   09/693,341,   09/696,473   09/696,514,
09/693,301,   09/693,388,   09/693,704   09/693,510,   09/693,336,   09/693,335

The disclosures of these co-pending applications are incorporated herein by cross-reference --

The section beginning at page 1, line 31 to Page 2, line 3 to be amended as follows:
~~NPA024US,   NPA025US,   NPA047US,   NPA049US~~
The disclosures of these co-pending applications are incorporated herein by cross-reference --

~~The disclosures of these co-pending applications are incorporated herein by cross-reference.~~

~~Each application is temporarily identified by its docket number. This will be replaced by the~~

~~corresponding USSN when available.~~

--09/663,579, 09/669,599,   09/663,701,   09/663,640--

The section beginning at page 2, lines 7-13 to be amended as follows:

NPA014US, NPA015US, NPA022US, NPA026US, NPA038US, NPA041US,
NPA050US, NPA051US, NPA052US, NPA063US, NPA065US, NPA067US,
NPA068US, NPA069US, NPA071US, NPA072US, NPB003US, NPB004US,
NPB005US, NPP019US, PEC04US, PEC05US, PEC06US, PEC07US

The disclosures of these co-pending applications are incorporated herein by cross-reference.
Each application is temporarily identified by its docket number. This will be replaced by the
corresponding USSN when available.

09/609,139, 09/608,970, 09/609,039, 09/607,852, 09/607,656, 09/609,132,
09/609,303, 09/610,095, 09/609,596, 09/607,843, 09/607,605, 09/608,178,
09/609,553, 09/609,233, 09/609,149, 09/608,022, 09/609,232, 09/607,844,
09/607,657, 09/608,920, 09/607,985, 09/607,990 09/607,196, 09/606,999

The disclosures of these co-pending applications are incorporated herein by cross-reference -
-

The section beginning at page 2, lines 18-33 to be amended as follows:

NPA001US, NPA002US, NPA004US, NPA005US, NPA006US, NPA007US,
NPA008US, NPA009US, NPA010US, NPA012US, NPA016US, NPA017US,
NPA018US, NPA019US, NPA020US, NPA021US, NPA030US, NPA035US,
NPA048US, NPA075US, NPB001US, NPB002US, NPK002US, NPK003US,
NPK004US, NPK005US, NPM001US, NPM002US, NPM003US, NPM004US,
NPN001US, NPP001US, NPP003US, NPP005US, NPP006US, NPP007US,
NPP008US, NPP016US, NPP017US, NPP018US, NPS001US, NPS003US,
NPS020US, NPT001US, NPT002US, NPT003US, NPT004US, NPX001US,
NPX003US, NPX008US, NPX011US, NPX014US, NPX016US, IJ52US,
IJM52US, MJ10US, MJ11US, MJ12US, MJ13US, MJ14US,
MJ15US, MJ34US, MJ47US, MJ58US, MJ62US, MJ63US,
PAK04US, PAK05US, PAK06US, PAK07US, PAK08US, PEC01US,
PEC02US, PEC03US

The disclosures of these co-pending applications are incorporated herein by cross-reference.
Each application is temporarily identified by its docket number. This will be replaced by the
corresponding USSN when available.

--09/575,197, 09/575,195, 09/575,159, 09/575,132, 09/575,123, 09/575,148,
09/575,130, 09/575,165, 09/575,153, 09/575,118, 09/575,131, 09/575,116,
09/575,144, 09/575,139, 09/575,186, 09/575,185, 09/575,191, 09/575,145,
09/575,192, 09/575,181, 09/575,193, 09/575,156, 09/575,183, 09/575,160,
09/575,150, 09/575,169, 09/575,184, 09/575,128, 09/575,180, 09/575,149,
09/575,179, 09/575,187, 09/575,155, 09/575,133, 09/575,143, 09/575,196,
09/575,198, 09/575178 09/575,164, 09/575,146, 09/575,174, 09/575,163,
09/575,168, 09/575,154, 09/575,129, 09/575,124, 09/575,188, 09/575,189,
09/575,162, 09/575,172, 09/575,170, 09/575,171, 09/575,161, 09/575,141,
09/575,125, 09/575,142, 09/575,140, 09/575,190, 09/575,138, 09/575,126,
09/575,127, 09/575,158, 09/575,117, 09/575,147, 09/575,152, 09/575,176,
09/575,115, 09/575,114, 09/575,113, 09/575,112, 09/575,111, 09/575,108,

09/575,109, 09/575,110

The disclosures of these co-pending applications are incorporated herein by cross-reference.--

The section beginning at page 9, lines 6-9 to be amended as follows:

~~The viewer 100 is a netpage system enabled device and communicates with a netpage system in a similar manner to that disclosed in the co-pending applications referred to earlier and in particular to applications USSN 09/_____ (docket no. NPP023US) and USSN 09/_____ (docket no. NPS027US).~~

--The viewer 100 is a netpage system enabled device and communicates with a netpage system in a similar manner to that disclosed in the co-pending applications referred to earlier and in particular to applications USSN 09/722,142 and USSN 09/721,893.--

The section beginning at page 13, lines 20 to 28 to be amended as follows:

~~The sensor device 112 is infrared sensitive. The CCD 162 is sensitive to infrared light, either inherently or by use of filters and the LED 160 emits infrared light, again inherently or by use of filters. The lens 168 is focused on the plane of the inner and outer feet 182 and 184, as this is where a substrate to be sensed will be located. The sensor device is capable of detecting infrared absorptive tags, such as netpage tags. For a full description of the processes involved, reference is made to our co-pending application USSN 09/_____ (docket no. NPS027US) referred to earlier. The CCD 162, the LED 160 and processing functions incorporated in the processor chip 170 are similar to those disclosed in the co-pending application.~~

--The sensor device 112 is infrared sensitive. The CCD 162 is sensitive to infrared light, either inherently or by use of filters and the LED 160 emits infrared light, again inherently or by use of filters. The lens 168 is focused on the plane of the inner and outer feet 182 and 184, as this is where a substrate to be sensed will be located. The sensor device is capable of detecting infrared absorptive tags, such as netpage tags. For a full description of the processes involved, reference is made to our co-pending application USSN 09/721,893 referred to earlier. The CCD 162, the LED 160 and processing functions incorporated in the processor chip 170 are similar to those disclosed in the co-pending application.--

The section beginning at page 14, lines 17 to 23 to be rewritten as follows:

~~The print assembly 200 is preferably an inkjet type printer and more preferably a full-color inkjet. Accordingly the ink cartridge 204 includes multiple inks. In the preferred embodiment the print assembly is a full-color CMY or CMYK printer and the ink cartridge 204 includes three or four separate ink chambers 252. Whilst any inkjet printhead may be used, more preferably the printhead is a microelectromechanical system (MEMS) type printhead (Memjet), such as that disclosed in our co-pending application USSN 09/575,141 (docket no. IJ52US).~~

--<u>The print assembly 200 is preferably an inkjet type printer and more preferably a full-color inkjet. Accordingly the ink cartridge 204 includes multiple inks. In the preferred embodiment the print assembly is a full-color CMY or CMYK printer and the ink cartridge 204 includes three or four separate ink chambers 252. Whilst any inkjet printhead may be used, more preferably the printhead is a microelectromechanical system (MEMS) type printhead (Memjet), such as that disclosed in our co-pending application USSN 09/575,141.</u>--

The section beginning at page 15, lines 13 to 28 to be rewritten as follows:

~~The operation of the print assembly 202 is controlled by a dedicated print engine/controller (PEC) chip 281 located on the PCB 118. An example of a suitable PEC is described in our co-pending application USSN 09/575,108 (docket no. PEC01US). The PEC chip 281 generates bi-level dot data for the printhead in real time and otherwise controls the operation of the printhead. Communication with the printhead assembly 202 is via a flexible PCB 228 which engages the PCB 118 via connector 230. The DC motor 286 is connected to the PCB via a flexible PCB 231.~~

~~A master QA chip 282 , for example as described in our co-pending application USSN 09/113,223 (docket no. Auth06), is provided which the PEC uses to authenticate an identical QA chip 283 embedded in the replaceable color ink cartridge 204. A raster image processor (RIP) DSP 284 may be used for rendering print data at high speed. Depending on the desired print quality and speed and the performance of the processor, the RIP DSP may be omitted with the processor performing rasterization. Depending on the need to accurately control ink quality and to monitor consumption, and on the availability of alternate mechanisms for detecting ink depletion, the inclusion of the QA chips may not be needed.~~

--The operation of the print assembly 202 is controlled by a dedicated print engine/controller (PEC) chip 281 located on the PCB 118. An example of a suitable PEC is described in our co-pending application USSN 09/575,108. The PEC chip 281 generates bi-level dot data for the printhead in real time and otherwise controls the operation of the

printhead. Communication with the printhead assembly 202 is via a flexible PCB 228 which engages the PCB 118 via connector 230. The DC motor 286 is connected to the PCB via a flexible PCB 231.

A master QA chip 282 , for example as described in our co-pending application USSN 09/113,223, is provided which the PEC uses to authenticate an identical QA chip 283 embedded in the replaceable color ink cartridge 204. A raster image processor (RIP) DSP 284 may be used for rendering print data at high speed. Depending on the desired print quality and speed and the performance of the processor, the RIP DSP may be omitted with the processor performing rasterization. Depending on the need to accurately control ink quality and to monitor consumption, and on the availability of alternate mechanisms for detecting ink depletion, the inclusion of the QA chips may not be needed.--

In the Claims:

Claims 1, 2 and 4 to 7 have been amended as follows:

1.   (Amended) A viewing device including:

at least one sensor for sensing coded data on or in a substrate and for generating first data based at least partly on the coded data;

a transmitter for transmitting, to a computer system, said first data, or second data at least partially based on the first data;

a receiver for receiving, from the computer system, at least display data associated with an identity derived from the first or second data;

at least one display device for outputting visual information based at least partially on said display data, and

a printer mechanism for printing on the substrate.

2.   (Amended) A viewing device according to claim 1 wherein the visual information output corresponds to a human discernable interface on the substrate.

4.   (Amended) A viewing device according to claim 3 wherein the user interface includes a touch-sensitive overlay.

5.   (Amended) A viewing device according to claim 45 wherein the printer mechanism prints markings on the substrate as a user interacts with the touch-sensitive screen overlay.

6.   (Amended) A viewing device according to claim 4̲5̲ wherein the printer mechanism prints markings on the substrate after a user has completed interaction with the touch-sensitive overlay.

7.   (Amended) A viewing device according to claim 6 wherein user input to the touch-sensitive ~~screen~~ overlay is uploaded to the computer system, and the viewing device is configured to ~~computer system downloads~~ receive data from the computer system based on the uploaded data, for printing on the substrate.

Claims 8 to 13 have been added as follows:

8.   (New) A viewing device according to claim 2, wherein the visual information represents a portion of an electronic document, the electronic document having been used as a basis for generation of the human discernable interface on the substrate.

9.   (New) A viewing device according to claim 8, wherein the visual information replicates at least some of the human discernable interface.

10.   (New) A viewing device according to claim 8, wherein the human discernable interface is visible to an average unaided human eye.

11.   (New) A viewing device according to claim 1, configured such that the sensor device is operative to sense the coded data when the viewing device is positioned at least partly overlapping the substrate.

12.   (New) A viewing device according to claim 11, configured such that the display device at least partly overlaps the sensor device, such that the sensor device is positioned between the display device and the coded data when the device is in use.

13.   (New) A viewing device according to claim 1, wherein the printer device is configured to print printed data corresponding at least partly with, or based at least partly upon, the display data or the visual information.